1 Charge on a Spiral

A charged spiral in the x, y-plane has 6 turns from the origin out to a maximum radius R , with ϕ increasing proportionally to the distance from the center of the spiral. Charge is distributed on the spiral so that the charge density increases linearly as the radial distance from the center increases. At the center of the spiral the linear charge density is 0 $\frac{\mathrm{C}}{\mathrm{m}}$. At the end of the spiral, the linear charge density is 13 $\frac{\mathrm{C}}{\mathrm{m}}$. What is the total charge on the spiral?